

Julia Berezutskaya

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<https://github.com/Immiora>

Employment

2023/01 – present	Postdoctoral researcher University Medical Center Utrecht, Brain Center, Utrecht, the Netherlands - <i>Supervised by prof. Nick Ramsey</i>
2020/02 – 2022/12	Postdoctoral researcher Artificial Intelligence department, Radboud University, Nijmegen, the Netherlands - <i>Supervised by prof. Marcel van Gerven</i> - <i>Guest researcher at University Medical Center Utrecht, Brain Center, Utrecht, the Netherlands</i>
2015/03 – 2020/01	PhD candidate University Medical Center Utrecht, Brain Center, Utrecht, the Netherlands - <i>Supervised by prof. Nick Ramsey</i>

Education

2012/09 – 2014/09	MSc in Cognitive Neuroscience Center for Mind/Brain Sciences, University Of Trento, Italy - <i>Exchange program (one-year) at Computational Cognitive Neuroscience lab, Radboud University, Nijmegen, The Netherlands</i> - <i>Thesis supervised by dr. Marcel van Gerven, dr. Irina Simanova</i> - <i>Cum laude graduation honors</i>
2007/09 – 2012/06	Specialist's Degree in Computational Linguistics (BSc + MSc) Lomonosov Moscow State University, Russia - <i>Cum laude graduation honors</i>

Publications

2024	Freudenburg Z. V., Berezutskaya J., Herbert C. The ethics of speech ownership in the context of neural control of augmented assistive communication. <i>Frontiers in Human Neuroscience</i> , 18, 1468938.
2024	Offenberg E., Berezutskaya J., Freudenburg Z., Ramsey N. (2024). High-performance

2023	neural decoding of 14Dutch keywords. <i>Proceedings of Graz BCI Conference, accepted</i>
2023	Canny, E., Vansteensel, M. J., van der Salm, S. M., Müller-Putz, G. R., & Berezutskaya, J. (2023). Boosting brain-computer interfaces with functional electrical stimulation: potential applications in people with locked-in syndrome. <i>Journal of NeuroEngineering and Rehabilitation</i> , 20(1), 157.
2023	Berezutskaya, J. , Freudenburg, Z. V., Vansteensel, M. J., Aarnoutse, E. J., Ramsey, N. F., & van Gerven, M. A. (2023). Direct speech reconstruction from sensorimotor brain activity with optimized deep learning models. <i>Journal of Neural Engineering</i> , 20(5), 056010.
2022	Berezutskaya, J. , Ambrogioni, L., Ramsey, N. F., & van Gerven, M. A. (2022). Towards Naturalistic Speech Decoding from Intracranial Brain Data. In 2022 44th <i>Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)</i> (pp. 3100-3104). IEEE.
2022	Favero, P., Berezutskaya, J. , Ramsey, N. F., Nazarov, A., & Freudenburg, Z. V. (2022). Mapping Acoustics to Articulatory Gestures in Dutch: Relating Speech Gestures, Acoustics and Neural Data. In 2022 44th <i>Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)</i> (pp. 802-806). IEEE.
2022	Berezutskaya, J. , Saive, A. L., Jerbi, K., & van Gerven, M. A. (2022). How does artificial intelligence contribute to iEEG research?. Chapter 58 in "Intracranial EEG: A Guide for Cognitive Neuroscientists", 761-802, <i>Springer</i> , edited by Axmacher N., ISBN 978-3-031-20909-3
2022	Berezutskaya, J. , Vansteensel, M. J., Aarnoutse, E. J., Freudenburg, Z. V., Piantoni, G., Branco, M. P., & Ramsey, N. F. (2022). Open multimodal iEEG-fMRI dataset from naturalistic stimulation with a short audiovisual film. // <i>Scientific data</i> , 9, 91.
2021	Berezutskaya, J. , Vansteensel, M. J., Aarnoutse, E. J., Freudenburg, Z. V., Piantoni, G., Branco, M. P., & Ramsey, N. F. (2021). Open multimodal iEEG-fMRI dataset from naturalistic stimulation with a short audiovisual film. // <i>BioRxiv</i> .
2021	Vansteensel, M. J., Selten, I. S., Charbonnier, L., Berezutskaya, J. , Raemaekers, M. A., Ramsey, N. F., & Wijnen, F. (2021). Reduced brain activation during spoken language processing in children with developmental language disorder and children with 22q11. 2 deletion syndrome. // <i>Neuropsychologia</i> , 107907.
2020	Berezutskaya, J. , Baratin, C., Freudenburg, Z. V., & Ramsey, N. F. (2020). High-density intracranial recordings reveal a distinct site in anterior dorsal precentral cortex that tracks perceived speech. // <i>Human brain mapping</i> , 41(16), 4587-4609.
2020	Berezutskaya, J. , Freudenburg, Z. V., Ambrogioni, L., Güçlü, U., van Gerven, M. A., & Ramsey, N. F. (2020). Cortical network responses map onto data-driven features that capture visual semantics of movie fragments. // <i>Scientific reports</i> , 10(1), 1-21.
2020	Berezutskaya, J. , Freudenburg, Z. V., Güçlü, U., van Gerven, M. A., & Ramsey, N. F. (2020). Brain-optimized extraction of complex sound features that drive continuous auditory perception. // <i>PLoS computational biology</i> , 16(7), e1007992.
2019	Ambrogioni, L., Güçlü, U., Berezutskaya, J. , Borne, E., Güçlütürk, Y., Hinne, M., ... & Gerven, M. (2019, April). Forward amortized inference for likelihood-free variational marginalization.// <i>The 22nd International Conference on Artificial Intelligence and Statistics</i> (pp. 777-786). PMLR.
2017	Berezutskaya, J. , Freudenburg, Z. V., Güçlü, U., van Gerven, M.A.J., Ramsey, N. F. (2017). Neural tuning to low-level features of speech throughout the perisylvian cortex //

	<i>Journal of Neuroscience</i> , 37(33), p. 7906.
2017	Berezutskaya, J. , Freudenburg, Z. V., Ramsey, N. F., Güçlü, U., van Gerven, M.A.J. (2017) Modeling brain responses to perceived speech with LSTM networks. // <i>Benelearn 2017: Proceedings of the Twenty-Sixth Benelux Conference on Machine Learning</i> , p. 149.
2017	Ambrogioni, L., Berezutskaya, J. , Güçlü, U., van den Borne, E. W., Güçlütürk, Y., van Gerven, M.A.J., & Maris, E. G. G. (2017). Bayesian model ensembling using meta-trained recurrent neural networks // <i>Workshop on Meta-Learning at Neural Information Processing Systems</i> , p. 1.
2012	Pechenkova E., Vlasova R., Berezutskaya J. , Sinitsyn V. (2012) One-back task functional localizer for visual word form area reveals inverse pattern of activation in readers of Russian // <i>Journal of Vision</i> . Vol. 12, n. 9, p. 531.

Awards & Grants

2024	VENI Grant, 320k (NWO, the Netherlands)
2024	Early Career Partnerships, 10k (KNAW, the Netherlands)
2024	Student Assistant funding for curating BCI-AI datasets, 6k (UMC Utrecht,the Netherlands)
2023	Assistive Technology Grant, 400k (ALS Association, USA)
2023	Spark grant from the Center for Unusual Collaborations, 9k (University Alliance: TU/e, WUR, UU, UMC Utrecht, the Netherlands)
2023	Travel Award to attend the BCI Society meeting, BCI Society, Belgium
2022	Open Competition XS Grant, 50k (NWO, the Netherlands)
2022	Awardee of the Talent Program (Research Care,-uker Development at UMC Utrecht)
2021	Trainee Professional Development Award, Society for Neuroscience (SFN), USA
2020	Student Assistant Funding, 10k, Donders center, Radboud University, Netherlands
2019	Travel Grant to attend the SFN meeting, Federation of European Neuroscience Societies (FENS)
2019	Travel Fund to attend the SFN meeting, UMC Utrecht, Netherlands [declined]
2018	Travel Award to attend the BCI Society meeting, BCI Society, USA
2018	Scholarship to attend Computational Neuroscience course, isiCNI Cape Town, South Africa [declined]
2017	Scholarship to attend Computational and Cognitive Neuroscience summer school, NYU Shanghai, China/USA
2015	Premio di Merito, University of Trento, Italy
2014	Erasmus Placement 'Place your Talent' Scholarship, University of Trento, Italy
2013	Erasmus Consortium Placement Scholarship, University of Trento, Italy
2013	Scholarship Bilateral Agreement University of Trento – Barnard College, Columbia University, Italy [declined]
2012	Erasmus Study Scholarship, University of Trento, Italy
2012	Opera Universitaria Scholarship to cover Master's degree tuition fees, Italy
2007	National Scholarship to cover 5 years of Specialist's degree tuition fees, Russia

Professional Service

2024	Program committee member Graz BCI Conference
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2023 – present	Guest editor in the Frontiers collection “Advancing Speech BCIs for Rapid Paralysis Communication”
2023 – present	Guest editor in the Frontiers special edition on Ethics of Speech BCIs
2021 – present	Review editor at the Frontiers journal Brain-Computer Interfaces
2020 – present	Reviewing for Current Biology, Frontiers in Human Neuroscience, Frontiers in Systems Neuroscience, Journal of Neural Engineering

Academic Leadership

2024 – present	Vice-chair of the Young Academy UMC Utrecht
2023 – present	Member of the steering committee of the Dutch Neurotechnology consortium “DBI ² ” (Gravitation project)
2023 – present	Member of the NeurotechEU network
2022 – present	Member of the European consortium on Neurotechnology “INTRECOM” (EU Pathfinder project)
2022 – present	Repronim/INCF Training Program fellow (reproducible neuroimaging program)
2022 – present	Member of the Young Academy UMC Utrecht
2022 – present	Postdoc representative on the Trainee/Postdoc committee of the BCI society
2021 – present	Member of the Young NeurolabNL research network
2020 – present	Member of the Dutch consortium on Neurotechnology “INTENSE”
2020 – 2022	Coordinating postdoc in a work package of the Dutch consortium “Language in Interaction” (Gravitation project)

Organization of Workshops & Seminars

2022.06.09	Workshop on speech neuroprosthesis at BCI Society Meeting
2022.06.23	Full-day career event at UMC Utrecht
2021	Invited talks for the work package of the Language in Interaction consortium
2017.10.27	Session moderation at the Donders Discussions conference
2017.09.27	Two-day BCI research seminar: Freiburg University – UMC Utrecht

Mentorship & Supervision

2024	Supervision: Akshaj Verma (Master’s thesis, AI, VU Amsterdam)
2024	Supervision: Evi Duijnhouwer (Master’s thesis, AI, Utrecht University)
2024	Supervision: Ruoling Wu (PhD candidate, UMC Utrecht)
2023	Supervision: Elena Offenbergh (PhD candidate, UMC Utrecht)
2023	Supervision: Mercyllyn Wiemer (Master’s thesis, AI, Utrecht University)
2023	Supervision: Emiel Eliens (Master’s thesis, AI, Utrecht University)
2023	Co-supervision: Simon Geukes (PhD candidate, UMC Utrecht)
2023	Examiner: Thijs Benschop (Master’s thesis, UMC Utrecht)
2023	Supervision: Evan Canny (Master’s literature thesis, Utrecht University)
2022	Supervision: Mo Nipshagen (PhD candidate, Radboud University)
2022	Co-supervision: Anna Zanicoli (Master’s thesis internship, University of Bologna)
2022	Supervision: Pascal Schröder (Master’s research internship, AI, Radboud University)
2022	Supervision: Frank Gelens (Master’s literature thesis, University of Amsterdam)

2022	Co-supervision: Charlotte Janssen (Master's thesis internship, Radboud University)
2022	Supervision: Lennart Müller (Master's research internship Biomedical Imaging Aachen University)
2022	Supervision: Eli Stolwijk (Master's thesis internship, AI, Utrecht University)
2022	Co-supervision: Petros-Evgenios Vlachos (research assistant, Radboud University)
2022	Supervision: Evan Kemmer (Bachelor's internship, UMC Utrecht)
2021	Supervision: Zuzanna Dedyk (Master student assistant & lab rotation, Radboud University)
2021	Examiner: Fleur Brandsen, Floris Van Wettum, Joost Kasper, Leonie Wagner (Bachelor's internships, Radboud University), Freek van den Bergh (Master's thesis, Radboud University)
2020	Supervision: Julie Clar (Bachelor's literature review, Utrecht University)
2020	Co-supervision: Paolo Favero (Master's research internship, AI Utrecht University)
2019	Supervision: Feng Lin (Master's literature thesis, UMC Utrecht)
2019	Supervision: Anastasia Nosanova (Bachelor's internship, University College Utrecht)
2018	Supervision: Jeroen Dijkmans (Master's literature thesis, UMC Utrecht)
2018	Supervision: Clarissa Baratin (Master's research internship, UMC Utrecht)
2017	Supervision: Danielle Bruel (Master's research internship, UMC Utrecht)
2017	Supervision: Zoe Cox-Putker (Master's research internship, UMC Utrecht)

Teaching

2024	AI for Neuroscience in <i>Master's Neuroscience and Cognition program</i> (Utrecht University, the Netherlands)
2022.03.14	Guest lecture on speech decoding for intracranial BCI <i>at the master's course on AI for Neurotech</i> (Radboud University, the Netherlands)
2021.09.28	Keynote on speech decoding for BCI <i>at the course on Current Issues in clinical neuroscience</i> (UMC Utrecht, the Netherlands)
2019.03.18	Tutorial: Python, Pandas and Seaborn <i>at the Language in Interaction PhD meeting</i> , (Radboud University, the Netherlands)
2018.05.21	Fundamentals of machine learning applied to BCI research <i>at Fundamental didactic session of BCI Society meeting</i> (Asilomar, USA)
2017.05.12	Deep learning for neuroscience <i>at a mini-course on machine learning, Brain Center Rudolf Magnus</i> (UMC Utrecht, the Netherlands)
2017 – 2019	MATLAB course in <i>Master's Neuroscience and Cognition program</i> (Utrecht University, the Netherlands)

Knowledge Dissemination and Outreach

2024.02.19	Interview for a podcast Escaped Sapiens on BCI human implants
2023.12.13	Interview for NRK radio series on AI applications in healthcare
2023.08.23	Interview with NewScientist.nl ("Verlamde vrouw kan na achttien jaar weer praten dankzij AI-avatar"): https://www.newscientist.nl/nieuws/verlamde-vrouw-kan-na-achttien-jaar-weer-praten-dankzij-ai-avatar/
2023.08.16	Interview with Nemo Kennislink ("Communiceren in stilte"), in press
2023.08.16	TV appearance NOS about decoding music from the brain:

2023.08.15	https://www.npostart.nl/nos-journaal/16-08-2023/POW_05467119 Interview with NOS (“Computer herkent Pink Floyd-nummer uit brein luisteraars”): https://nos.nl/artikel/2486771-computer-herkent-pink-floyd-nummer-uit-brein-luisteraars
2022.03.18	Interview with Nemo Kennislink (“Direct communiceren van brein tot brein”): www.nemokennislink.nl/publicaties/direct-communiceren-van-brein-tot-brein
2022.03	Article “Bias in Artificial Intelligence” for the <i>Neuroscience & Cognition</i> journal at UMC Utrecht (journal.neuroscience-cognition.org)
2021	Supervision and curation of Language in Interaction Videoclip about our research
2020.11	Article “Online PhD Experience” for the <i>Neuroscience & Cognition</i> journal at UMC Utrecht (journal.neuroscience-cognition.org)

Invited Talks

2022.03.14	Speech decoding for brain-computer interfaces, rainbow course <i>at the Interdisciplinary College 2022</i> (online)
2022.02.24	Intracranial recordings and neurobiology of language <i>at the Neurolinguistics seminar of High School of Economics</i> (Moscow, Russia)
2022.02.11	Explainable AI: how to make sense of black-box artificial neural network models in BCI <i>at X-talk on Translational Neuroscience</i> (UMC Utrecht, the Netherlands)
2021.11.09	Decoding naturalistic speech from iEEG with artificial neural networks <i>at the symposium “Speech Decoding from Intracranial Data” of the Society for Neuroscience</i> (online)
2021.10.14	Speech-to-brain mapping with deep learning models <i>at the U-BRAIN meeting</i> (UMC Utrecht, the Netherlands)
2021.06.08	Towards naturalistic speech decoding from the brain <i>at the workshop “From Speech Decoding to Speech Neuroprostheses” of the BCI Society</i> (online)
2017.06.26	Modeling continuous ECoG responses to naturalistic speech using recurrent neural networks <i>at Human Brain Mapping</i> (Vancouver, Canada)